



# Volunteer Lake Assessment Program Individual Lake Reports

## SUCCESS POND, SUCCESS, NH

### MORPHOMETRIC DATA

Watershed Area (Ac.):	2,496	Max. Depth (m):	7.9	Flushing Rate (yr <sup>-1</sup> )	1.4	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	290	Mean Depth (m):	3.8	P Retention Coef:	0.65	2005	MESOTROPHIC	
Shore Length (m):	4,500	Volume (m <sup>3</sup> ):	4,283,500	Elevation (ft):	1600	2008	MESOTROPHIC	

### TROPHIC CLASSIFICATION

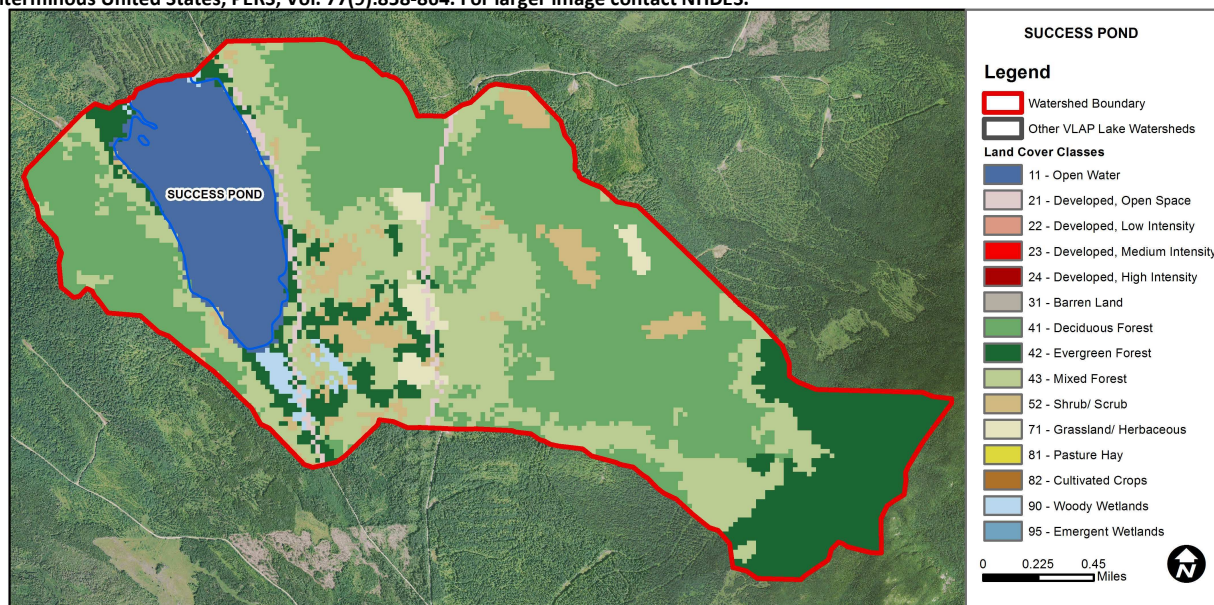
### KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	<5 samples and median is > threshold. More data needed.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Cautionary	<5 samples and median is < threshold. More data needed.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.

### WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	11.6	Barren Land	0	Grassland/Herbaceous	1.62
Developed-Open Space	1.52	Deciduous Forest	40.13	Pasture Hay	0
Developed-Low Intensity	0	Evergreen Forest	15.2	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	24.2	Woody Wetlands	0.95
Developed-High Intensity	0	Shrub-Scrub	4.88	Emergent Wetlands	0



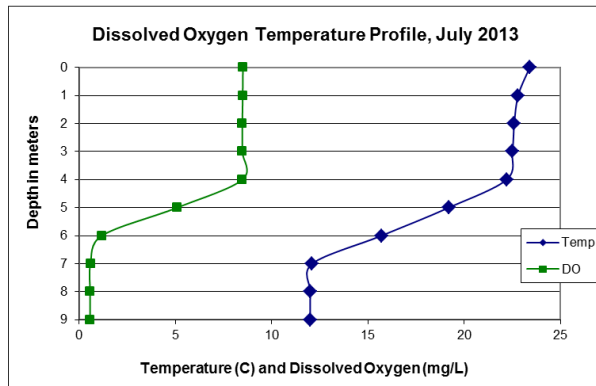
# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

## SUCCESS POND, SUCCESS, NH

### 2013 DATA SUMMARY

#### OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- CHLOROPHYLL-A:** Chlorophyll levels were low in July and much less than the 2011 level and the state median. Visual inspection of historical data indicates highly variable chlorophyll levels.
- CONDUCTIVITY/CHLORIDE:** Conductivity levels were low and below the state median. Visual inspection of historical data indicates stable conductivity levels.
- E. COLI:** Beach E. coli levels were well below state standards for public beaches.
- TOTAL PHOSPHORUS:** Deep spot phosphorus levels were slightly elevated and greater than the 2011 level. Inlet phosphorus was low. Visual inspection of historical data indicates epilimnetic (upper water layer) phosphorus increased since 2010.
- TRANSPARENCY:** Transparency was approximately equal to the state median and slightly better than 2011 transparency. Visual inspection of historical data indicates relatively stable transparency.
- TURBIDITY:** Metalimnetic (middle water layer) turbidity was slightly elevated and likely caused by a layer of algae at that depth. Hypolimnetic (lower water layer) turbidity was also slightly elevated potentially due to bottom sediment.
- pH:** pH levels were sufficient to support aquatic life, however have been below critical levels in the past.
- RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer to better assess variability in summer water quality and historical trends. Epilimnetic phosphorus was elevated and may have resulted from increased stormwater runoff due to significant storm events. Educate lake and watershed residents on ways to reduce stormwater runoff from their properties utilizing DES' "Homeowner's Guide to Stormwater Management". Manage dirt and gravel roads utilizing the USDA Forest Service's "Environmentally Sensitive Road Maintenance Practices for Dirt and Gravel Roads".



Station Name	Table 1. 2013 Average Water Quality Data for SUCCESS POND							
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.	Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m	ntu	
						NVS VS		
Beach				1				
Epilimnion	5.90	1.25	20.6		11	3.25 4.05	0.59	7.07
Metalimnion			24.3		11		2.10	6.62
Hypolimnion			29.3		15		2.34	6.65
Inlet			27.3		7		0.61	7.12

**NH Median Values:** Median values for specific parameters generated from historic lake monitoring data.

**Alkalinity:** 4.9 mg/L  
**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>  
**Conductivity:** 40.0 uS/cm  
**Chloride:** 4 mg/L  
**Total Phosphorus:** 12 ug/L  
**Transparency:** 3.2 m  
**pH:** 6.6

**NH Water Quality Standards:** Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

**Chloride:** < 230 mg/L (chronic)  
**E. coli:** > 88 cts/100 mL – public beach  
**E. coli:** > 406 cts/100 mL – surface waters  
**Turbidity:** > 10 NTU above natural level  
**pH:** 6.5-8.0 (unless naturally occurring)

#### HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.

